

REMARKS

In view of the above amendments and following remarks, reconsideration of the rejections contained in the Office Action of May 21, 2004 is respectfully requested.

In the Office Action, the Examiner rejected claims 16-21, 23-28, 30-35 and 37 as being obvious over Wilson et al., U.S. 6,251,789 (Wilson) in view of Lehman et al., U.S. 6,621,264 (Lehman). However, it is respectfully submitted that the present invention, as now reflected by the above amended claims, clearly distinguishes over both Wilson and Lehman.

By the above, each of independent claims 16 and 23 have been amended. Claims 18, 20, 22, 25, 27 and 29, i.e. various dependent claims have also been amended. Claims 17, 19, 21, 24, 26, 28 and 30-37 have been canceled.

Support for the additional limitations in the various claims can be found at, for example, page 16, line 23, to page 17, line 3 of the substitute specification; page 38, lines 10-14; page 20, line 15 to page 21, line 2; and page 21, lines 14-27.

While not acquiescing to the positions taken by the Examiner with respect to the applicability of Wilson and Lehman to the claims in their prior form, it is respectfully submitted that the amended claims now clearly distinguish over both Wilson and Lehman.

Claim 16 now recites that, in measuring the film thickness of the first metal layer with an eddy current monitor during the polishing of the first metal layer, the eddy current monitor detects an end point of the polishing the first metal layer when the eddy current monitor detects a predetermined thickness of the first metal layer. The polishing surface is cleaned by supplying water for removing the first polishing fluid on the polishing surface after the eddy current monitor has detected the end point of the polishing the first metal layer, furthermore. The second metal layer is polished after the cleaning of the polishing surface by pressing and moving the second layer against the polishing surface with a second polishing fluid. The thickness of the second metal layer is then measured with an optical film thickness monitor during the polishing of the second metal layer. Claim 23 similarly recites cleaning the polishing surface by supplying water for removing the first polishing fluid after the eddy current detector has detected an end point of the polishing of the first layer, and then

polishing the second metal layer and measuring the thickness of the second metal layer with an optical film thickness monitor.

In both independent claims 16 and 23 as discussed above, water is used for cleaning the polishing surface. The water removes the slurry that is used in the first polishing process. Accordingly, with polishing processes using plural types of slurry, which have different compositions from each other, the same polishing table can be used. Thus the number of polishing tables can be reduced, and at the same time, the through-put, or amount of processing per unit of time, for the substrate polishing can be enhanced.

Wilson discloses the use of selective slurries for the formation of conductive structures. In particular, a first slurry removes a conductive layer much more readily than the liner layer. A second slurry removes the liner layer much more readily than the conductive layer. A copper layer 436 is polished using a slurry that more readily removes copper, as compared to liner layer 434. The portion of liner layer 434 which overlies a dielectric layer 430 is removed next, using a different slurry than that used to remove the conductive 436. While column 4 of Wilson does mention an optical end point measurement system, Wilson provides no disclosure or suggestion of cleaning the polishing surface for removing the first polishing fluid after an eddy current monitor has detected an end point of polishing as required by both claims 16 and 23.

Lehman is directed to in-situ metalization monitoring using eddy current measurements during a process for removing a film. However, there is no disclosure or suggestion in Lehman of cleaning the polishing surface by supplying water for removing the first polishing fluid and the polishing surface after the eddy current monitor has detected an end point of the polishing of the first layer. Accordingly, it may be seen that both independent claims 16 and 23 clearly patentably distinguish over Wilson and Lehman. Indication of such is respectfully requested.

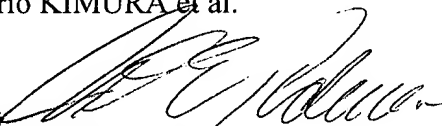
Additional distinctions are presented in the amended dependent claims. However, because of the clear distinctions in the independent claims, further discussion of these differences does not appear to be necessary at this time.

The above amendments have been presented at this time, as they were not earlier deemed necessary. The final Office Action was the first citation of both Wilson and Lehman, it is noted. Because the above amendments clearly define over Wilson and Lehman and place this application into condition for allowance, entry of these amendments at this point is in order. Such entry is respectfully requested.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance, and the Examiner is requested to pass the case to issue. If the Examiner should have any comments or suggestions to help speed the prosecution of this application, the Examiner is requested to contact Applicants' undersigned representative.

Respectfully submitted,

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